

REMARKS

Claims 2-14, 16-21, 27-31, and 33 are pending herein.

1. Claims 1-14, 22, 23, 27-33, 39 and 40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ignatiev et al. alone or R. Nenetschek et al. "Continuous Coated Conductor Fabrication by Evaporation" in combination with Ignatiev et al. further in combination with JP 02-118075 and JP 02-118061. This rejection is moot in light of the incorporation of the subject matter of claim 15, 25, and 26.

2. Claims 25 and 26 were rejected under 35 USC 103(a) as being unpatentable over Ignatiev et al. alone or R. Nenetschek et al. in combination with Ignatiev et al. further in combination with JP 02-118075 and JP 02-118061, still further in combination with Goyal et al. Claims 15-21 are rejected under 35 USC 103(a) s being unpatentable over Ignatiev et al. alone or R. Nenetschek et al. in combination with Ignatiev et al. further in combination with JP 02-118075 and JP 02-118061, still further in combination with Glowacki et al. These rejections are respectfully traversed for the following reasons.

The presently claimed invention is directed towards a method of forming a superconductive device. The claimed invention particularly calls for annealing a metal alloy substrate having a surface that is polycrystalline and randomly textured. Further, the claimed invention calls for depositing a biaxial texture buffer layer by ion beam assisted deposition. Applicants discovered the annealing step reduced surface defects on the substrate tape, resulting in a high degree of texture of the buffer layer and a high quality superconductor layer.

It is noted that claim 11 now incorporates features of claim 15, 25, and 26. As such, it appears that the PTO would rely upon the combination of Ignatiev et al., R. Nenetschek et al, JP 02-118075, JP 02-118061, Goyal et al., and Glowacki et al. to allegedly teach the features of the claimed invention.

The PTO acknowledges that Ignatiev et al. alone or R. Nenetschek et al. in combination with Ignatiev et al. further in combination with JP 02-118075 and JP 02-118061 fail to teach or suggest (i) annealing the substrate, and (ii) depositing a biaxially textured buffer layer by IBAD.

Goyal et al. teach depositing a buffer layer by IBAD upon a substrate. Glowacki et al. teach the annealing an alloy substrate having a cubic texture. In contrast to the claimed process, Glowacki et al. utilize RABiTS to impart a cubic texture to the alloy substrate prior to annealing. As disclosed by Glowacki et al., a specific two stage annealing process is utilized to promote the preferential growth of crystal grains having a cubic texture. In contrast, Applicants utilize annealing of the untextured substrate to heal surface defects by relaxing the crystalline surface structure. Applicants submit that one of ordinary skill in the art would not combine the teachings of Goyal et al. and Glowacki et al. Specifically, RABiTS relies upon the texture of the substrate to provide a template for growth of the superconducting layer whereas IBAD utilizes the texture imparted to the buffer layer by the ion beam to provide a template for the growth of the superconducting layer. As such, the combination of Ignatiev et al., R. Nenetschek et al, JP 02-118075, JP 02-118061, Goyal et al., and Glowacki et al. fails to teach or suggest to one of ordinary skill in the art (i) annealing a polycrystalline, randomly textured substrate tape and (ii) depositing a buffer layer by ion beam assisted deposition to overly the substrate tape after annealing.

For at least the forgoing reasons, Applicants respectfully submit that the presently claimed invention would not have been unpatentable over Ignatiev et al., R. Nenetschek et al, JP 02-118075, JP 02-118061, Goyal et al., and Glowacki et al. Accordingly, withdrawal of the Section 103 rejections is respectfully requested.

Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to telephone Applicants' undersigned representative at the number listed below.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Respectfully submitted,

Date

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